

BALYAKIN, Vitaliy Arsen'yevich; AVDEYEV, M.I., red.; PARAKHINA, N.L.,  
tekhn. red.

[Toxicology and expertise on alcoholic intoxication] Toksiko-  
logiya i ekspertiza alkogol'nogo op'yanenia. Moskva, Medgiz,  
1962. 193 p. (MIRA 16:5)  
(ALCOHOLISM) (MEDICAL JURISPRUDENCE)

AVDEYEV, Mikhail Mikhaylovich; TSVETKOVICH, Sergey Aleksandrovich; GORO-  
DETSKOV, A.P., inzh., retsentent; SIDOROV, N.I., inzh., red.;  
MEDVEDEVA, M.A., tekhn. red.

[Practices in the operation of a.c. electric locomotives] Opyt eks-  
luatatsii elektrovozov peremennogo toka. Moskva, Vses. izdatel'sko-  
poligr. ob"edinenie M-va putei soobshcheniiia, 1961. 37 p.  
(Electric locomotives) (MIRA 14:11)

AVDEYEV, M. M.

The ignitrons are being cooled during the technical inspection  
of an electric locomotive. Elek. i tepl. tiaga 6 no. 9:23  
S '62. (MIRA 15:10)

1. Zamestitel' nachal'nika sluzhby lokomotivnogo khozyaystva  
Gor'kovskoy dorogi.

(Electric locomotives)

AVDEYEV, N.V., kand. tekhn. nauk

Interaction of a metallization layer with a cylindrical  
base and the determination of internal stresses in them.  
Trudy VNIIAVTOGENMASH no.12:176-192 '65. (MIRA 18:11)

AVDEYEV, M.V., inzh.; RYZHKOV, N.A., inzh.

Distribution of temperature during weaving-arc build-up welding.  
Svar. proizv. no.4:9-10 Ap '65. (MIRA 18:6)

1. Chelyabinskiy institut mekhanizatsii i elektrifikatsii  
sel'skogo khozyaystva.

AVDEYEV, N.

Leaders in competition. Voen. znan. 37 no.10:19 0 '61.  
(MIRA 14:9)

1. Zamestitel' predsedatelya oblastnogo komiteta Dobrovol'nogo  
obshchestva sodeystviya armii, aviatsii i flotu, g.Vologda.  
(Vologda Province--Military education)

AVDEYEV, N., kapitan

Our experience in planting mines at night. Voen. vest. 41  
no.4:94 Ap '62. (MIRA 15:4)  
(Mines, Military)

NAKONYECSNIJ, I.I. [Nakonechnyy, I.I.]; AVGYEDEV, N.B. [Avdeyov, N.B.];  
SITKEI, Gjorgy [translator];

Designing harvester-thresher variators. Jarmu mezo gep 5  
no.2:58-3 of cover Ap '58.

1. Moskovskiy institut mekhanizatsii i elektrifikatsii sel'skogo  
khozyaystva (for Nakonechnyy, Avdeyov).

AVDEYEV, N. V., Cand Tech Sci -- (diss) "Metallization of spray with subsequent agglutination." Tashkent, 1960. 18 pp. (State Committee of Higher and Secondary Specialist Education under the Council of Ministers Uzbek SSR, Central Asiatic Polytechnic Inst); 150 copies; price not given; (KL, 23-60, 123)

11800

1521, 1454, 2208

29340  
S/122/61/000/010/006/011  
D221/D304

AUTHOR: Avdeyev, N.V., Candidate of Technical Sciences

TITLE: Determining the strength of bond between a sprayed metal layer and the base

PERIODICAL: Vestnik mashinostroyeniya, no. 10, 1961, 37 - 59

TEXT: The author considers the physical and chemical aspects of the bond between the sprayed metal and the base, and deduces a mathematical relationship for it. Rigid bodies possess surface layers which result from forces of residual valences. These forces are quite large, but maximum proximity of joined particles is required for their utilization. The approach of a sprayed metal particle to the hard base surface is illustrated in Fig. 1. Surface roughness causes contact with protrusions, whose supporting area increases with deformation (see Fig. 1). The strength of bond,  $\sigma_M'$  depends upon force of impact  $P$ , material of base, character of microsurface etc., and is given by

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Determining the strength of ...

$$\sigma'_M = k_1 k_0 \frac{\gamma v^2}{gHB} \sigma_b' \cdot 10^{-2}, \quad (1)$$

where  $k_1$  - a coefficient which takes into account the finish of base;  $k_0$  - the coefficient characterizing the sprayed metal;  $\gamma$  - the specific weight in g/cm<sup>3</sup>;  $v$  - speed of particles in m/sec;  $g$  - the acceleration due to gravity (981 cm/sec<sup>2</sup>); HB - Brinell hardness in kg/mm<sup>2</sup>;  $\sigma_b'$  - the strength of material in the work hardened condition in kg/mm<sup>2</sup>. The first coefficient is  $k_1 = k'k''$ , where  $k'$  is the ratio of micro-surface to the area of metallized workpiece;  $k''$  is the coefficient of change in strength of bond in relation to angle formed by the direction of particle motion and normals to the micro-lands (commensurate with diameters of particles) at the point of drop of the latter. The average values of  $k_0$  and  $k_1$  are tabulated. Highly plastic particles fill up cavities of the base during the impact, and the simultaneous plastic deformation of impacting surfaces results in the junction of their protuberances (see Fig.1)

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Determining the strength of ...

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The junction may be either of wedge or anchor type, firstly, due to friction, and secondly, on account of filling the widening (in direction of particle travel) micro-element of the base. The strength of the bond between the metal sprayed layer and the base  $\sigma_M$ , is composed of the resistance of metal contacts produced and the strength of the mechanical junction, i.e.  $\sigma_s = \sigma'_M + \sigma'_c$ . The strength coefficients  $\sigma'_M$ ,  $\sigma'_c$ , and  $\sigma_M$  were determined by the method of Professor L.V. Krasnichenko. Observations demonstrate that the bond is improved when plastic properties are increased and hardness of base reduced. Heating of the aluminum surface to 300-350°C increases the strength of the bond by 2-3 times; marked heat, however, results in rapid oxidation which produces a drop in strength. Annealing of work or normally hardened surfaces, increase of base surface roughness (higher  $k_o$ ), and higher pressure of spraying (larger  $v$ , and thus greater energy of plastic deformation, also increased the contact surface) improve the strength of the bond. A greater oxide layer on the metallized surface reduces the strength of the bond (lowers  $k_o$ ). The main factor which precludes seizure is

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Determining the strength of ...

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D221/D304

due to adsorption films consisting of polar molecules, causing surface migration of the active molecules. This was established by P. A. Rebinder, and also on account of splitting pressure, as discovered by B. V. Deryagin. When there is no migration, as in the case of spraying non-polar ~~polar~~ polarity liquids (pure gasoline, etc.) then freshly formed metal in the contact zone is pressed out ~~out~~ together with surface layers of metal and oxides. Mono-molecular film at the surface of the base prevents seizure if screening fields of forces of surface atoms exist. Joining on surface roughness is eliminated when thick layers of lubricant are present. There are 2 figures, 2 tables and ~~2~~ Soviet-bloc references.

Card 4/5

AVDEYEV, N.V., kand.tekhn.nauk

Effect of some factors on the corrosion resistance of metallized surfaces. Vest.mashinostr. 44 no.3:42-45 Mr '64. (MIRA 17:4)

ACCESSION NR: APL026246

S/022/64/000/003/0042/0045

AUTHOR: Avdeyev, N. V. (Candidate of technical sciences)

TITLE: The effects of some factors on the corrosion resistance of metallized surfaces

SOURCE: Vestnik mashinostroyeniya, no. 3, 1964, 12-45

TOPIC TAGS: metal plating, metal plating corrosion, plating thickness, stainless steel, aluminum, zinc, lead

ABSTRACT: The effects of oxide formation, film porosity, thickness, etc. on the corrosion resistance of metallized surfaces are discussed. The oxide content in a metal coating and its effectiveness can be obtained by

$$P_o = \left(1 + \frac{n_2 A}{16 n_1}\right) g.$$

(where A = atomic weight of metal,  $n_1$  = number of oxygen atoms in the oxide formed,  $n_2$  = number of metal atoms in oxide). The formula is modified to

$$P_o = \left(1 + \frac{n_2 A_2 + n_1 A_1}{16 n_1}\right) g.$$

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ACCESSION NR: AP4026246

if more than one metal is involved. The number and size of pores in stainless steel, Al, Zn, and Pb were compared and given as 10-20, 20-30, 200-500, 500-2000 pores/mm<sup>2</sup> and 50-5, 30-1, 15-0.5, and 5-0.01 micron respectively. A table of recommended materials and plating thicknesses is presented for different environmental conditions and temperatures. Orig. art. has 2 tables, 3 formulas, and 1 figure.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 20Apr64

ENCL: CO

SUB CODE: MM

NO REF Sov: 003

OTHER: 000

Card 2/2

L 20971-65 EWP(s)/EWT(m)/T/EWP(t)/EWP(k)/EWP(b) PI-4 BSD/ASD(m)-3 JD

ACCESSION NR: APL6000933

S/0129/54/000/012/0021/0026

AUTHOR: Avdeyev, N.V.

B

TITLE: Heat treatment of metallized parts

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 12, 1964, 21-26,  
and insert facing p. 24

TOPIC TAGS: metallizing, diffusion coating, heat treatment, clad metal, steel cladding,  
copper cladding, powder metallurgy

ABSTRACT: Chemical and heat treatments was used to increase the physicomechanical properties of the applied metal coat and to increase the bonding strength with the base metal. The metallized part was heated in a reducing medium; temperature and holding time depended on the material and required properties of the coating. The heat-treatment temperature corresponded to 0.68-0.78 of the melting point of the starting material. The sintering temperature for a steel coating was 1000-1200°C, for copper coating, 750-840°C. Higher temperatures caused fusion of the oxide eutectic since their m.p. was lower than that of the starting material and also caused noticeable shrinkage of the coating, buckling, and structural changes in the base material. Low-temperature heating (less than 0.68 of the m.p.) either did not provide the needed sintering qualities or required

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ACCESSION NO.	P500093					
very long holding time of the metallized part. The smaller the part and the simpler its shape, the higher the temperature that must be used. Since the time depends on the thickness of the coating (from 1 to 10 hours), heat treatment modified the mechanical properties of the coating in relation to the temperature and atmosphere, porosity, and thickness of the coating. Tensile strength of heat-treated metallized specimens removed from the base metal exceeded the yield point of the base metal, while the tensile strength and yield point of the base metal, which dropped. Heat treatment strengthened the bond between coating and base metal under the conditions used and had substantial advantages over other methods of metallizing. Metal is stronger. Metal articles of thin-walled articles, that of great difficulty to powder metallurgy and 2 figures.	The heat treatment temperature depended on the size of the part and the simpler its shape, the higher the temperature that must be used. Since the time depends on the thickness of the coating (from 1 to 10 hours), heat treatment modified the mechanical properties of the coating in relation to the temperature and atmosphere, porosity, and thickness of the coating. Tensile strength of heat-treated metallized specimens removed from the base metal exceeded the yield point of the base metal, while the tensile strength and yield point of the base metal, which dropped. Heat treatment strengthened the bond between coating and base metal under the conditions used and had substantial advantages over other methods of metallizing. Metal is stronger. Metal articles of thin-walled articles, that of great difficulty to powder metallurgy and 2 figures.	the heating process of the applied technological system, nature of the coating, increased stresses on coating, increased thickness of the coating, base metal, depending on how good to have between coating and of complexly shaped parts.	2 a shape and size of the part, the heating process of the applied technological system, nature of the coating, increased stresses on coating, increased thickness of the coating, base metal, depending on how good to have between coating and of complexly shaped parts.	Orig. art. has 1		
ACCESSION:	Thermal polytechnic university institute (Tashkent)					
SUBMITTED:	00	ENCL. 00	SUB CODE			
NO. IEE SOVI. 001		OTHER: 002				
22						

AVDEEV, N. YA.

Hunting and fur farming pavilion Moskva, Goskul'tprosvetizdat, 1964 55 p.

1. Moscow - Exhibitions. 2. Hunting. 3. Fur-bearing animals.

Avdeyev, N. Ya.

USSR/Biology - Wild life conservation

Card 1/1 Pub. 86 - 7/37

Authors : Avdeyev, N. Ya.

Title : Hunting and game preservation

Periodical : Priroda 44/4, 61 - 67, Apr 1955

Abstract : The role of hunting as a means of livelihood is reviewed. The claim is made that under the czarist governments wild life was ruthlessly destroyed and that systematic efforts are now being made to restore it. A description of the work done in this regard is presented in the form of an account of a visit to the pavilion of "Hunting and Game Preservation" at the Agricultural Exhibition at Moscow. Illustrations.

Institution : .....

Submitted : .....

LOGUNOV, N.M.; RAMKOV, F.G.; AVDEYEV, N.Ya., metodist pavil'ona; SYCHIK,  
Ye.V., redaktor; BALLOD, A.I., tekhnicheskiy redaktor

[ "Dog breeding" pavilion; a guidebook] Pavilon "Sobakovodstvo";  
putevoditel'. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 26 p.  
(MLRA 9:8)

1. Moscow. Vsesoyuznaya sel'skokhozyaystvennaya vystavka, 1954-
2. Direktor pavil'ona (for Ramkov)  
(Dogu) (Moscow-Agricultural exhibitions)

AVDEYEV, N. YA.

33008

Oratsional, nom pprivedenni Nekotorykh binomial,nykh integralov k Ul'traellipticheskim I Ellipticheskim. Uchen. Zapiski (ost.n/d gos. Ped. i uchitel. IN-T), kafedra matem. analiza i algebry I kakedra geometrii, vyp. 1, 1949,c. 69-96

SO:Lstopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

AVDEEV, N. Ya.

Avdeev, N. Ya. On rational integration in finite form of some binomial integrals. Rostov. Gos. Ped. Inst. Uč. Zap. 1953, no. 2, 21-29. (Russian)

Certain integrals of the form  $\int F(x) R(x)^{1/n} dx$ , where  $F$  and  $R$  are rational, are reduced by rational substitutions to integrals of rational functions. E. R. Kolchin.

Aydeev, N. Ya.

1-FW

Aydeev, N. Ya. On the question of solution of a mixed system of differential equations. Rostov. Gos. Ped. Inst. U. Zap. no. 3 (1955), 59-70. (Russian)

Systems of the type

$$\begin{aligned} M(x, y)dx + N(x, y)dy &= 0, \\ A\partial^2u/\partial x^2 + 2B\partial^2u/\partial xy + C\partial^2u/\partial y^2 + D\partial u/\partial x + E\partial u/\partial y \\ &= f(x, y) \end{aligned}$$

are considered. A one parameter family of solutions is determined when  $f=0$ ,  $\partial M/\partial y = \partial N/\partial x$ , and  $M$  and  $N$  satisfy a first order equation with constant coefficients (related to  $A, \dots, E$ ). If  $f=0$ , then a simple necessary and sufficient condition that the system have a solution is given. The inhomogeneous case is discussed. Numerous examples are given.

N. D. Kazarinoff. //

FMDT 7/20/97

Avdeev, N. Ya. Application of conformal mapping to the  
solution of certain boundary problems. Rostov. Gos.  
Ped. Inst. Uč. Zap. no. 3 (1955), p. 88. (Russian)

Expository article on the application of complex  
variable methods to the solution of two-dimensional  
potential problems. W H J Fuchs (Ithaca, N Y).

3

T-W

SNW

CHERNYAYEV, M.P., prof., otv. red.; AVDEYEV, N.Ya., dots., red.;  
POLYAKOV, A.N., dots., red.

[Abstracts of papers read at the Methodological Conference of the Mathematics Departments of the Pedagogic Institutes of the southern part of the R.S.F.S.R.] Tezisy dokladov Nauchno-metodicheskoy konferentsii matematicheskikh kafedr pedagogicheskikh institutov iuga RSFSR, 2d. Rostov na Donu, Rostovskii na Donu gos. pedagog. in-t, 1960. 105 p. (MIRA 15:4)

1. Nauchno-metodicheskaya konferentsiya matematicheskikh kafedr pedagogicheskikh institutov iuga RSFSR, 2d. 2. Rostovskiy pedagogicheskiy institut (Prof. Chernyayev; Avdeyev, Polyakov).  
(Russia, Southern--Mathematics)

BELOZEROV, Semen Yefimovich; AVDEYEV, N.Ya., dots., otv. red.;  
KOVALENKO, Yu.V., red.; PAVLICHENKO, M.I., tekhn. red.

[Principal stages of the development of the general theory  
of analytic functions] Osnovnye etapy razvitiia obshchei teorii  
analiticheskikh funktsii. Rostov-na-Donu, Izd-vo Rostovskogo  
univ., 1962. 311 p. (MIRA 16:3)  
(Functions, Analytic)

AVDEYEV, N.Ya.

Problems involved in sedimentometric dispersion analysis. Koll.zhur.  
26 no.2:145-152 Mr-Ap '64. (MIRA 17:4)

1. Rostovskiy-na-Donu pedagogicheskiy institut.

AVDEYEV, N. Ya.

Analytical method of calculating the distribution curves of  
polydisperse systems from the rates of settling of the suspension  
disperse phase. Koll. zhur. 26 no.3:273-277 My-Je '64  
(MIRA 17:9)

1. Rostovskiy pedagogicheskiy institut.

AVDEYEV, Nikolay Yakovlevich; VOLAROVICH, M.P., doktor fiz.-matem. nauk, prof., red. BAGROV, A.A., kand. tekhn. nauk, dots., spets. red.

[Analytical method of calculation in sedimentometric dispersion analysis] Ob analiticheskem metode rascheta sedimentometricheskogo dispersionnogo analiza. Rostov-na-Donu, Izd-vo Rostovskogo univ., 1964. 201 p.  
(MIRA 18:1)

VOLAROVICH, M.P.; AVDEYEV, N.Ya.

Use of an electronic computer in the dispersion analysis  
of polydisperse systems. Koll. zhur. 26 no.5:647-648 S-0 '64.  
(MIRA 17:10)

1. Rostovskiy pedagogicheskiy institut.

AVDEYEV, N.Ya.; BAGROV, A.A.

Formula for suspension deposition and its application to the  
sedimentation analysis of some polydisperse systems. Koll.zhur.  
25 no.3:273-277 My-Je '63. (MIRA 17:10)

1. Rostovskiy-na-Donu pedagogicheskiy institut.

OPIC, L.A.; VYVYEV, L.N., KUDRI, S.I.

Quantitative estimation of the effect of the precipitation condition on the granulometric composition of rock-alkali hydroxide. Khim. zhur. 27 no.2(24/11) Nov. 1953.

U. Rostovskiy Geologicheskiy Institut.

AVDEYEV, N.Yo.; GRACH'YAN, A.N.; DOVYBOROVA, L.N.

Analytical method for the quantitative evaluation of the  
effect of surface-active agents on the granulometric  
composition of cement. Koll. zhur. 27 no.4:481-484  
Jl-Ag '65. (MIRA 18:12)

I. Rostovskiy-na-Donu pedagogicheskiy institut. Submitted  
April 8, 1964.

AVDEYEV, N.Ye., inzhener.

Kinematics of rake-type reels. Sel'khozmashina no.6:12-14 Je '57.  
(MLRA 10:7)

1. Moskovskiy institut mekhanizatsii i elektirifkataii sel'skogo  
khozyaystva.

(Combines (Agricultural machinery)) (Machinery, Kinematics of)

AVDEYEV, N.Ye.

NAKONCHINYY, I.I.; AVDEYEV, N.Ye.

Designs for infinitely variable transmissions for grain combines.  
Sel'khozmaschina no.2:16-17 J1 '57. (MLRA 10:8)

Moskovskiy institut mehanizatsii i elektrifikatsii sel'skogo  
khozyaystva.

(Combines (Agricultural machinery))  
(Power transmission)

AVDEYEV, N.Ye.; KOROBOV, V.A.; SOLOV'YEV, V.M.; KRYUKOV, V.L., red.;  
ZUBRILINA, Z.P., tekhn. red.

[Concise manual for combine operators] Kratkii spravochnik kombainera.  
Moskva, Gos. izd-vo sel'khoz. lit-ry, 1958. 160 p. (MIRA 11:8)  
(Combines (Agricultural machinery))

VASILENKO, I.F., akademik; AVDEYEV, N.Ye., inzh.; MOROZOV, A.F., inzh.;  
SOLOV'YEV, V.M., kand.tekhn.nauk; KHYUKOV, V.L., red.; MAKHOVA,  
N.H., tekhn.red.; BALIUD, A.I., tekhn.red.

[Grain combines of the U.S.S.R. and foreign countries; theory  
and analysis of construction] Zernovye kombainy SSSR i zarubezh-  
nykh stran; teoriia i analiz konstruktsii. Pod red. I.F.Vasilenko.  
Moskva, Gos. izd-vo sel'khoz. lit-ry, 1958. 294 p. (MIRA 11:12)  
(Combines (Agricultural machinery))

AVDEYEV, Nikolay Yemal'yanovich; KOROBOV, V.A.; SOLOV'YEV, V.M.; KOBYLYAKOV, L.M., red.; ZUBRILINA, Z.P., tekhn.red.

[Manual for combine operators] Kratkii spravochnik kombainera.  
Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 215 p. (MIRA 13:10)  
(Combines (Agricultural machinery))

AVDEYEV, N. Ye.

Cand Tech Sci - (diss) "Theoretical and experimental study of the functioning of key straw shakers (of threshers)." Moscow, 1961. 16 pp; 4 pp of diagrams; (Joint Academic Council of the All-Union Scientific Research Inst of Mechanization of Agriculture "VIM" and the All-Union Sci Res Inst of Electrification of Agriculture "VIESKh"); 150 copies; price not given; (KL, 10-61 sup, 212)

SOLOV'YEV, V.M., kand.tekhn.nauk, dotsent; STURIS, A.I., aspirant;  
AVDEIEV, N.Ye., inzh.; KAZHATKIN, G.D., inzh.

Investigating the power indices of the SK-3 self-propelled combine.  
Izv. TSKhA no.5:162-167 '61. (MIRA 14:12)

1. Moskovskaya ordena Lenina sel'skokhozyaystvennaya akademiya  
im. K.A. Timiryazeva (for Solov'yev, Sturis). 2. TSentral'naya  
mashinoispytatel'naya stantsiya (for ~~Andrey~~, Kazhatkin).  
(Combines (Agricultural machinery))

AVDEYEV, N. Ye., kand. tekhn. nauk

Use of high-speed motion picture techniques for studying the  
distribution of seeds by a planter. Mekh. i elek. sots.  
sel'khoz. 20 no.6:15-16 '62. (MIRA 16:1)

1. Voronezhskiy tekhnologicheskiy institut.

(Planters(Agricultural machinery))

PUGACHEV, A.N., agronom; AVDEYEV, N.Ye., inzh.

Planter for broadcast sowing. Zemledelie 24 no.3:35-41 Mr  
'62. (MIRA 15:3)

1. TSentral'naya mashinoispytatel'naya stantsiya Vsesoyuznogo  
ob'yedineniya Soveta Ministrov SSSR "Soyuzsel'khoztekhnika".  
(Planters (Agricultural machinery))

AVDEYEV, N.Ye.; FUGACHEV, A.N.; PSHECHENKOV, K.A.; CHERNIKOV, B.P.

Machinery tested at the Central Machinery Testing Station. Trakt.  
i sel'khozmash. 32 no.4:39-41 Ap '62. (MIRA 15:4)  
(Agricultural machinery--Testing)

AVDEYEV, N.Ye.; KOROBOV, V.A.; SOLOV'YEV, V.M.; DMITRIYEV, I.N., red.;  
DEYEVA, V.M., tekhn.red.; TRUKHINA, O.N., tekhn.red.

[Concise manual for the combine operator] Kratkii spravochnik  
kombainera. Izd. 3., perer. i dop. Moskva, Sel'khozizdat, 1962.  
291 p. (MIRA 16:6)

AVDEYEV, P.I.

Mechanize the cleaning of bridge span structures. Put'  
i put.khoz. 5 no.7:22 J1 '61. (MIRA 14:8)

1. Nachal'nik mostocobsledovatel'skoy vodolaznoy stantsii,  
Novosibirskaya distantsiya.  
(Railroad bridges—Maintenance and repair)

AFONCHENKO, M.Ye.; AVDEYEV, P.L.; GLEKEL', B.A.

Hydraulic beater with horizontal rotor shaft. Bum.prom.32  
no.9:22-23 S '57. (MIRA 10:12)

1. TSellyulczno-bumashnyy kombinat "Goroy truda."  
(Papermaking machinery)

AVDEYEV, P. konstruktor

Straightening the bristles of brush idler rolls. Bum.prom. 34  
no.8:19 kg '59. (MIR 12:12)

1. TSallyulozno-bumashnyy kombinat "Goroy Truda,"  
(Paper industry--Equipment and supplies)

AVDEYEV, P.L.

Improved system for the processing of water paper. Bum.prom. 38.no.2:  
27 F '63. (MIRA 16:2)

1. Starshiy konstruktur tsellyulogo bumazhnogo kombinata "Geroj  
truda".

(Paper industry—Equipment and supplies)

AVDEYEV, P.P.

BLINOVA, V.A.; PLOTNIKOVA, N.V.; VOLKOV, N.M.; SYSOYEVA, A.V.; AVDEYEV, P.P.;  
KATSEVMAN, Kh.A.; RODINA, P.M.; GUSEVA, L.L.; KAMENSKIY, V.I., red.;  
BYKOV, A.N., tekhn.red.

[Economy of Tambov Province; a statistical manual] Narodnoe khoziam-  
stvo Tambovskoi oblasti; statisticheskii sbornik. [Tambov] Izd-vo  
"Tambovskaya pravda," 1957. 187 p. (MIRA 11:3)

1. Tambovskaya oblast'. Statisticheskoye upravleniye. 2. Statisti-  
cheskoye upravleniye Tambovskoy oblasti (for all except Kamenskiy,  
Bykov). 3. Nachal'nik Statisticheskogo upravleniya (for Kamenskiy)  
(Tambov Province--Statistics)

DANKOVTSYEV, A.G.; SELEZNEV, V.S.; AVDEYEV, P.P.

System of measures worked out for the development of live-  
stock farming in Krasnoyarsk Territory. Zhivotnovodstvo 21  
no.9:3-10 S '59. (MIRA 13:1)

1. Zamestitel' predsedatelya Krasnoyarskogo krayispolkoma;  
nachal'nik krayevogo upravleniya sel'skogo khozyaystva (for  
Dankovtsev). 2. Direktor Krasnoyarskogo nauchno-issledovatel'-  
skogo instituta sel'skogo khozyaystva (for Seleznev). 3. Glav-  
nyy zootehnik Krasnoyarskogo upravleniya sel'skogo khozyaystva  
(for Avdeyev).

(Krasnoyarsk Territory--Stock and stockbreeding)

AVDEYEV, P. V.

AVDEYEV, P.V.

Investigating friction coefficients. Trudy SNTO MVTU no. 3: 31-34 '57.  
(MLRA 10:9)

(Friction)

AYDEEV, S.

Name: AVDEEV, S.

Author of following books: "Radio Controlled Models.." First part is devoted to a model armored car controlled by a spark transmitter with coherer type receiver; the second part discusses a model ship controlled by ultra-short waves.

"Model Ship Controlled by Radio." Book deals with the construction of the ship, radio control at a distance, power supply, etc. These books are designed for young radio amateur builders.

REF: R. F. #14, p.62, 1938  
REF: R. F. #21-22, p.63, 1938

ACC. NR: AP7007583

SOURCE CODE: UR/0432/66/000/001/0005/0007

AUTHOR: Avdeyev, S. V.; Loschilin, A. P.; Osadchiy, A. Kh.

ORG: none

TITLE: Experience in the application of electronic-hydraulic regulators of the 'Teploavtomat' system for automation of thermal processes at electric power stations

SOURCE: Mekhanizatsiya i avtomatzatsiya upravleniya, no. 1, 1966, 5-7

TOPIC TAGS: thermoelectric power plant, electric generator

SUB CODE: 10

ABSTRACT: The processes of supply and firing a 50t steam generating unit were automated at the Kursk thermal electric power station in 1964 on the basis of an electronic-hydraulic control system produced by the Khar'kov "Teploavtomat" plant. The automation system includes control of feeding, fuel (primarily natural gas), air and exhaust. This article presents a brief description of the regulatory system, plus a photograph of the electronic control units on the control panel. A year's usage has demonstrated the high reliability of the system, without a single failure having occurred. Also, with instantaneous changes of load of up to 70% of nominal, all parameters were retained within the permissible limits. An increase in efficiency of 0.7-1% was noted, plus a fuel economy of about 4%. Orig. art. has: 2 figures.  
[JPRS: 36,741]

Card 1/1

UDC: 62.551.4  
nccp-12

AVDEYEV,T.K., inzhener; RYUKIN,I.M., inzhener; FILATOV,Ye.Ya., inzhener

Industrial buildings with precast reinforced concrete frames.  
Stroi. prom. 33 no.5:16-18 My '55. (MLRA 8:6)  
(Precast concrete construction)

LUKASHOV, G.G.; AVDEYEV, V.A.

Expansion and reorganization of the "Azovstal'" plant. Stal'  
23 no.8:676-678 Ag '63. (MIRA 16:9)

1. Metallurgicheskiy zavod "Azovstal'."  
(Zhdanov--Iron and steel plants)

AVDEYEV, V.A., inzh.

Let us improve assembling operations in the building of mines and  
coal preparation enterprises. Shakht. stroi. 9 no.8:13-15 Ag '65.  
(MIRA 18:8)  
1. Upravlyayushchiy trestom Donbassantratsitshakhtostroymontazh.

L 43832-66 EVT(m)/EVT(j)/T IJP(c) W/W/RM

ACC NR: AP6030597

(A, N)

SOURCE CODE: UR/0413/66/000/016/0090/0090

INVENTOR: Makharinskiy, Ye. G.; Smyslov, V. I.; Mironov, A. K.; Shakhev, V. A. i  
Dimitriyenko, I. P.; Suminov, V. I.; Avdeyev, V. A.

3 S  
B

ORG: none

15

TITLE: Production process for cylinders of laminated plastics. Class 39, No. 185046  
(announced by the Independent Special Design and Technical Bureau (Samostoyatel'noye  
spetsial'noye konstruktorsko-tehnicheskoye byuro); State Scientific-Research  
Institute of Plastics (Gosudarstvennyy nauchno-issledovatel'skiy institut  
plasticheskikh mass))

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 90

TOPIC TAGS: reinforced plastic, laminated plastic

ABSTRACT: An Author Certificate has been issued for a production process for  
laminated plastic cylinders involving the winding of a pre-impregnated and dried  
strip of filler onto a rotating mandrel and molding of the laminated material. To  
enhance the mechanical strength of the cylinder walls, the molding is carried out by  
pressing between the mandrel and a heated roll. [SM]

SUB CODE: 11/ SUBM DATE: 14Jul64/ ATD PRESS: 5072

Card 1/1 fv

UDC: 678.027.2

ACC NR: AT7000718 (N) SOURCE CODE: UR/0000/66/000/000/0121/0129

AUTHOR: Galynkina, L. D. (Engineer); Avdeyev, V. B. (Engineer)

ORG: None

TITLE: Investigation and adjustment of a reverse hydraulic coupling for a marine duodirectional transmission with gas turbine installation

SOURCE: Ukraine. Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya. Gidroprivod i gidropnevmoavtomatika (Hydraulic drive and hydropneumatic automation), no. 2. Kiev, Izd-vc Tekhnika, 1966, 121-129

TOPIC TAGS: hydraulic device, mechanical power transmission device, marine engineering, gas turbine

ABSTRACT: Data are given from an investigation of a reverse hydraulic coupling for a marine duodirectional transmission with gas turbine installation conducted at the Kharkov Affiliate of the Institute of Mechanics AN UkrSSR in 1962-1963. This research was done to improve the power indices and the shape of the characteristic curve for the turbine wheel, *viz.* to increase the braking moment of the turbine and thus reduce the time required for reversing the course of the ship. In studying the internal processes of the hydraulic coupling, the direction, overall pressure and dynamic pressure component of the flow were measured by probes introduced at 4 points between wheels under rated conditions as well as under operating conditions exceeding the rated speci-

Card 1/2

ACC NR: AT7000718

fications. The flow was also studied at 3 points along the cascade behind the guide vane assembly of the turbine. It was found that the efficiency of a full-scale hydraulic coupling may be raised by: 1. increasing the angle of departure of the pump blade by 5°; 2. installing deflectors on the turbine blades or using profiled blades in the turbine wheel; 3. increasing the radius of curvature of the torus in the section preceding the turbine; 4. designing a new turbine guide vane assembly which gives a more uniform meridian flow component with respect to blade spacing; 5. replacing blades of constant thickness in the pump and its guide vane assembly with profiled asymmetric blades and reducing the number of blades to 30; 6. mounting profiled blades on the pump impeller. A separate experimental check of the alterations mentioned in points 1, 2 and 3 showed an improvement in the properties of the hydraulic coupling. These changes gave the following results: 1. increased the efficiency by 5%, 2. enlarged the high-efficiency zone (above 60%) by a factor of 1.5 with respect to transmission ratio, 3. increased the transmission ratio corresponding to maximum efficiency from 0.73 to 0.78 (theoretical value 0.8), 4. raised the braking moment by 40% and 5. increased the moment of the pump and turbine under converter idling conditions by 30%, thus reducing the performance characteristics of the hydraulic coupling under these conditions. Orig. art. has: 6 figures, 1 table.

SUB CODE: 13/ SUBM DATE: 29Jun66/ ORIG REF: 004

Card 2/2

1. AVDEYEV, V. D., Eng.
  2. USSR (600)
  4. Electric Controllers
  7. Electromechanical system of automatic regulation of the combustion process in steam boiler units.  
Rab. energ. 2 No. 10, 1952
9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

AVDEYEV, V. D.

PA 248T77

USSR/Engineering - Automatic Control, Nov 52  
Water Filters

"Automation of the Quartz and Cationic Filters  
of the Chemical Water Conditioning Plants at Elec-  
tric Power Stations," Cand Tech Sci Ye. N. Krasot-  
kin and Engr V. D. Avdeyev, Section of Heat Auto-  
matics; Engr P. N. Bogoslovskiy, GES Mosenergo  
(Hydroelectric Power Station of Moscow Rayon Power  
System Administration)

Iz V-S Teplotek Inst, № 11, pp 1-6

Discusses principles of operations and automatiza-  
tion of quartz and cationic filters and describes  
248T77

automatic devices of VTI system for flushing quartz  
filter and for regeneration of Na-cationic filter.  
Electric diagrams of both types of filters are  
presented.

248T77

"APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000102530001-9

AVDEYEV, V. D.

Origin of the steppes in the Trans-Kama region. Nazan' Tatgosizdat., 1948.

SO: MLRA. October 1952

APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000102530001-9"

AVDEYEV, V. D.

Steppe vegetation and grazing, Izv. Vses. geog. obshch., 84, no. 3, 1952.

SO: MLRA. October 1952.

AVDEYEV, V.D.

Method for pollen analysis. Bot. zhur. 38 no.3:407-411 '53. (MLRA 6:6)  
(Pollen, Fossil)

AVDEYEV, V.D.

The relationship between stony steppe flora and hydrocarbons.  
Geol.sbor. no.3:277-280 '55. (MLRA 8:6)  
(Second Baku---Petroleum geology)

AVDEYEV, V.D.

~~"Phytogeography with fundamentals of general botany"~~ by N.A.  
Prozorovskii. Reviewed by V.D. Avdeev. Bot. zhur. 43 no. 5:725-729  
Ny '58. (MIRA 11:7)

1. Ul'yanovskiy pedagogicheskiy institut im. I.N.Ul'yanova.  
(Botany)  
(Prozorovskii, N.A.)

AVIDYEV, V.D. (g. Ordzhonikidze, Severoosetinskaya ASSR.

Stages in the formation and degradation of steppe vegetation in the  
region south of the Kama River. Bot. zhur. 43 no.6:840-847 Je '58.  
(MIRA 11:7)

(Tatar A.S.S.R.--Steppe flora) (Grazing)

"APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000102530001-9

AVDEYEV, V., prof.

Mystery of the "stone steppe." IUn. tekhn. 5 no. 2:33-36 F '61.  
(MIRA 14:5)  
(Petroleum geology) (Botany)

APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000102530001-9"

AVDEYEV, V.D.

What is "steppe"? Bot. zhur. 49 no.1:75-84 Ja '64. (MIRA 17:2)

1. Bashkirskiy sel'skokhozyaystvennyy institut, Ufa.

1 59376-65		EVT(m)/EWP(f)/T-2		
ACCESSION NR:		AP5017865		UR/0286/65/000/011/0115/0115 621.43-38
AUTHOR:		Antropov, G. A.; Avduyev, V. D.		15 14 8
TITLE: A hydraulic device for compensating clearances in the valve mechanism of internal combustion engines. Class 46, No. 171690				
SOURCE: Byulleten' izobreteniij i tovarnykh znakov, no. 11, 1965, 115				
TOPIC/TAGS: internal combustion engine, check valve, valve clearance compensation				
ABSTRACT: This Author's Certificate introduces: 1. A hydraulic device for compensating clearances in the valve mechanism of internal combustion engines. The unit contains a cylinder, piston and check valve. The overall dimensions of the device are reduced and operational reliability is improved by making the check valve in the form of a heavy gauge cup with a loading spring inside it. The bottom of the cup is the shutoff section. 2. A modification of this device with apertures in the side walls of the cup to reduce hydraulic drag.				
Card 1/3				

L 59375-65			
ACCESSION NR: APS017865			
ASSOCIATION: Bryanskij mashinostroitel'nyy zavod ( <u>Bryansk Machine Building Factory</u> )			
SUBMITTED: 24Feb64	ENCL: 01	SUB CODE: PR	
NO REF SOV: 000	OTHER: 000		
Card 2/3			

"APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000102530001-9

L 59376-65

ACCESSION NR: AP5017865

ENCLOSURE: 01

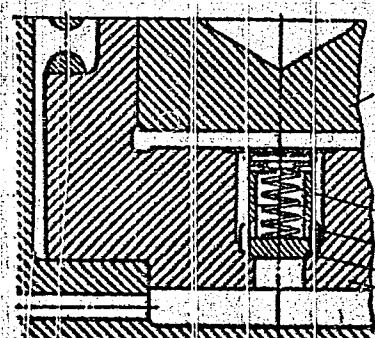


Fig. 1. 1--cylinder; 2--piston;  
3--check valve; 4--loading  
spring; 5--aperture

Card 3/3 *20A*

APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000102530001-9"

ACC NR: AP6021481

(A)

SOURCE CODE: UR/0413/66/000/011/0111/0111

INVENTOR: Shishkin, V. A.; Drokonov, Ye. M.; Avdeyev, V. D.; Zarubin, Ye. I.

ORG: None

TITLE: A reversing mechanism for internal combustion engines. Class 46, No. 182440 [announced by the Bryansk Machine Building Plant (Bryanskii mashinostroitel'nyy zavod)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 11, 1966, 111

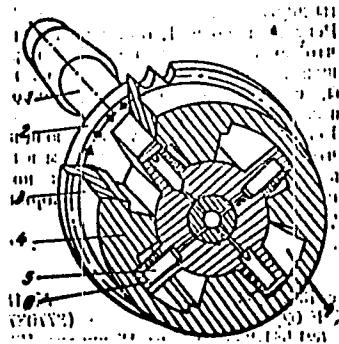
TOPIC TAGS: internal combustion engine, engine control system, engine crankshaft

ABSTRACT: This Author's Certificate introduces a reversing mechanism for internal combustion engines which contains a torsional hydraulic cylinder located in the drive unit between the crankshaft and the camshaft. The torsional cylinder is positively stopped at the extreme positions of the lobes by means of several hydraulic locks located within the cylinder itself.

Card 1/2

UDC: 621.43-581-229.384

ACC NR: AP6021481



1—housing; 2—sprocket; 3—lobes; 4—hub; 5—spring-loaded pistons; 6—cavities;  
7—hydraulic cylinder cavities

SUB CODE: [13] 21 SUBM DATE: 17Jun63

Card 2/2

ASHIN, A.K.; ROSTOVTSEV, S.T.; AVDEYEV, V.F.

Kinetics and mechanism of the reduction of manganese oxides by carbon. Reduction of manganese protoxide. Izv. vys. ucheb. zav.; chern. met. 7 no.10:13-16 '64.

(MIRA 17:11)

1. Dnepropetrovskiy metallurgicheskiy institut.

TSYPEROVICH, A.S. [TSyperovych, O.S.]; AVDEYEV, V.G. [Avdieiev, V.H.]

A simplified method for the determination of crystalline  
chymotrypsinogen and alpha-chymotrypsin. Ukr. Biokhim. zhur.  
36 no.3:454-461 '64. (MIRA 17:10)

1. Institut biokhimii AN UkrSSR, Kiyov.

AVDEYEV, V.I.; BELETSKAYA, M.P. (Khar'kov)

Valerian Grigor'evich Lashkevich, Botkin's successor. Klin. med.  
35 no.1:124-125 Ja '57 (MLRA 10:4)

1. Iz kafedry propadevtiki vnutrennikh bolezney lechebnogo  
fakul'teta (zav. kafedroi-zasluzhennyj deyatel' nauki prof.  
V.M. Kogan-Yasnyy) Khar'kovskogo meditsinskogo instituta.  
(BIOGRAPHIES

Lashkevich, Valerian G.)

S/051/60/009/006/017/018  
E201/E191

AUTHOR: Avdeyev, V.I.

TITLE: Magnitude of Nuclear Polarization<sup>19</sup> in the Transient Overhauser Effect

PERIODICAL: Optika i spektroskopiya, 1960, Vol.9, No.6, pp.793-794

TEXT: The author discusses a system consisting of a nucleus with spin  $I$  and an electron with spin  $S = \frac{1}{2}$  in a strong magnetic field  $H$ . The author gives a calculation of nuclear orientation for the case of consecutive saturation of two alloyed transitions  $\Delta M = \pm 1$ ,  $\Delta m = 0$ , where  $M$  and  $m$  are the projections of the electron and nuclear spins along the magnetic field axis. This transient effect was used by Pines, Bardeen and Slichter (Ref. 2) to explain a rise of intensity of one line observed when its neighbour is saturated (Ref. 3). The paper is entirely theoretical.

There are 2 figures and 3 references: 1 Soviet and 2 English.

SUBMITTED: July 4, 1960

Card 1/1

AVDEYEV, V.I.; SHERIA, D.P.

Two suggestions for plants manufacturing compressors.  
Mashinostroitel' no. 2:46 F '61. (NIRA 34:2)  
(Compressors--Technological innovations)

247700 (1035,1044,1164)

30791  
S/181/61/003/011/034/056  
B125/B138AUTHOR: Avdeyev, V. I.

TITLE: The influence of an acceptor impurity on the rate of relaxation of donor electrons in semiconductors

PERIODICAL: Fizika tverdogo tela, v. 3, no. 11, 1961, 3480-3486

TEXT: The probability of the reorientation of electron spin in the transitions of an electron to the neighbouring ionized atom is calculated. The author only investigated transitions caused by modulation of the hyperfine interaction of an electron with an impurity nucleus by lattice vibrations. Such a transition mechanism is possible if the overlapping integral (integral perekrytiya) is not too small. Germanium is the most convenient material from this point of view. The operator of the electron-phonon interaction reads as  $\hat{H}^{1(\beta),j(\alpha)} N_q^{1/2} = (1/2) S_{ij} \gamma A_{ij} (\omega_q / E_F V_u)^{1/2} N_q^{1/2} (1 - \lambda^2)$  (2.6) where  $N_q = 1/\{\exp(\hbar\omega_q/kT) - 1\}$  is the average number of phonons with the wave number  $\omega_q$ . The probability of the transition  $\beta \rightarrow \alpha$

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X

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B125/B138

The influence of an acceptor impurity...

$$W^{\beta\alpha} = (\gamma/\pi\hbar) \sum_{ij}^{\infty} \int_0^{\infty} q^2 dq |H^1(\beta), j(\alpha)|^2 N_q f_i^{\beta} (1 - f_j^{\alpha}) \delta(\Delta_{ji} + 2\mu_s - \hbar u q) \quad (2.8)$$

is found with the aid of  $f_i^{\beta} = 1/\{\exp((E_i - \mu_s)/kT) + 1\}$ ,  
 $f_j^{\alpha} = 1/\{\exp((E_j + \mu_s)/kT) + 1\}$  (2.7) by summarizing over all the i,j-states and by averaging over the phonon transitions. Relaxation time is given by

$$\frac{1}{T_s} = W^{\beta\alpha} + W^{\alpha\beta},$$

$$\frac{1}{T_s} = \frac{1}{4\pi\mu_s b\hbar} \sum_{ij} A_{ij}^2 S_{ij}^2 N_{(\Delta_{ji} + 2\mu_s)/kT} \times \\ \times (\Delta_{ji} + 2\mu_s/kT)^2 f_i^{\beta} f_j^{\alpha} \exp\left\{-\frac{E_j + \mu_s/kT - \eta}{kT}\right\}. \quad (2.9)$$

After replacing the sum contained in (2.9) by the corresponding integral, (2.9) is transformed into

$$\frac{1}{T_s} = \frac{1}{4\pi\mu_s b\hbar} \int_{-\infty}^{\infty} g(E) dE \int_{-\infty}^{\infty} G(E, x) x^2 dx \times$$

$$\times \left\{ \left[ \exp\left(\frac{x}{kT}\right) - 1 \right] \left[ \exp\left(\frac{E - \mu_s/kT - \eta}{kT}\right) - 1 \right] \left[ \exp\left(\frac{E + x - \mu_s/kT - \eta}{kT}\right) + 1 \right] \right\}. \quad (2.12)$$

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S/181/61/003/011/034/056  
B125/B138

The influence of an acceptor impurity...

if  $\int_{-\infty}^{\infty} g(E)dE = N_D$  (2.10),  $\int_{-\infty}^{\infty} G(E, \Delta)d\Delta = 1$  (2.11) is taken into account. As

calculation of these integrals in a general form is difficult, the following simplifications are assumed: a) For strong degenerations ( $\eta \gg kT$ ),  $g(E)$  can be replaced by its value for  $E = \eta$ . This condition is satisfied for silicon and germanium. b) A and S are very sensitive to variation in the distance between impurities, they decrease exponentially

with increasing  $d = |\vec{R}_i - \vec{R}_j| = d$ . The nearest neighbours give the principal contribution to the rate of relaxation. c) The function G was roughly assessed by T. Kasuya, S. Koide (J. Phys. Soc. Japan, 13, 1287, 1958). In the present case  $G_0 = 1/\Delta E$  for  $0 < \Delta E < \Delta E_0$ ,  $G_0 = 0$  outside this interval:  $\Delta E = \eta - E_0 + 2\mu_s \Delta l$ , where  $E_0$  is the upper limit of the impurity zone. Then, the rate of relaxation

$$\frac{1}{T_x} = (2/15) (\pi^3 \gamma^2 I A_d S_d / \rho u^5 h^4 \Delta E) g(\eta) (kT)^5 \quad (2.15).$$

As  $\eta - E_0 \gg \mu_s \Delta l$  in the general case, the rate of relaxation is only

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The influence of an acceptor impurity...

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S/181/61/033/011/034/056  
B125/B138

dependent on external magnetic field. For germanium,  $10 < \gamma < 50$ . The calculations are carried out for impurity concentrations of  $(1.4) \cdot 10^{16} \text{ cm}^{-3}$ .  $A_d$  is calculated by the formula  $A_d = (32\pi/3)(\mu_s \mu_I/2I)|\psi(d)|^2$  (3.2). The final results of the calculations are given in Tables 1 and 2 for  $\chi = 3000$  gauss,  $T = 10^\circ\text{K}$ ,  $\gamma = 25$ . The rate of relaxation decreases strongly with the decreasing concentration of donor impurities and in the present approximation it does not depend on the nature of the compensating impurities. For silicon,  $(1/T_x)_{\text{Si}} \sim 10^{-2} - 10^{-3} \text{ sec}^{-1}$ . Professor

N. D. Sokolov is thanked for interest and discussion of the results. There are 2 tables and 10 non-Soviet references. The three most recent references to English-language publications read as follows: A. Honig, E. Stupp. Phys. Rev., 117, 69, 1960; H. Hasegawa. Phys. Rev., 118, 1523, 1960; L. M. Roth. Phys. Rev., 118, 1534, 1960.

ASSOCIATION: Sibirskoye otdeleniye instituta kataliza AN SSSR Novosibirsk  
(Siberia Department of the Institute of Catalysis of the  
AS USSR Novosibirsk)

Card 4/6 5

The influence of an acceptor impurity...

30791  
S/181/61/003/011/034/056  
B125/B138

SUBMITTED: June 22, 1961

Table 1. The results of the calculations of the quantities  $g(\tau)$  and  $\Delta E$ .

Legend to Table 1: 1 - erg.

$N_D \cdot 10^{-10}$ , $\text{cm}^{-3}$	$N_A \cdot 10^{-10}$ , $\text{cm}^{-3}$	$d \cdot 10^4$ , $\text{cm}$	$g(\tau) \cdot 10^{-m}$ , $\text{sec}^{-1}$	$\Delta E \cdot 10^4$ , $\text{erg}$
4	2	1.58	3.78	1.70
3	1.5	1.74	3.12	1.55
2	1	2.00	2.98	1.36

Card 5/6/5

S/181/63/005/003/006/046  
B102/B180

AUTHOR: Avdeyev, V. I.

TITLE: Relaxation rate of donor electrons in compensated semiconductors

PERIODICAL: Fizika tverdogo tela, v. 5, no. 3, 1963, 734-739

TEXT: Since current methods for relaxation rate calculations (e. g. Phys. Rev. 118, 1525 or 1534, 1960) are not applicable to semiconductors containing both donor and acceptor atoms a more general method is developed here. At low temperatures and impurity concentrations part of the donor atoms is ionized, and electrons may go over from neutral (i) to ionized (j) atoms. For such transitions  $\Delta_{ij} = E_i - E_j \neq 0$ ; if e. g.  $N_D = N_A \approx 10^{16} \text{ cm}^{-3}$ ,  $A_{ij} \approx 10^{-3} \text{ ev}$ . The aim of the investigation was to estimate the electron spin reorientation probability for transitions caused by modulations of the spin-orbital interaction by lattice vibrations; the relaxation times for these transitions are calculated for compensated Si and Ge. The result reads

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Relaxation rate of donor electrons in ...

S/181/63/005/003/006/046  
B102/B180

$$\frac{1}{T_s} \doteq \frac{1}{\pi n^2} \frac{E_1^2}{\Delta^2} \frac{(g\mu\mathcal{B}S)^4}{\hbar u^6 p} kT.$$

(2,11)

The contribution of acceptor and donor ion vibrations to the relaxation time is small and given by

$$\frac{1}{T_D} = \frac{4}{45\pi} \cdot \frac{1}{n^2} \cdot \left(\frac{e^2}{\epsilon a^2 \Delta}\right)^2 \cdot \frac{(g\mu\mathcal{B})^4}{\hbar u^6 p} kT \times \\ \times \left(\frac{R}{a^2}\right)^8 \left[1 - \left(\frac{R}{a^2}\right)^8 - \frac{2}{3} \left(\frac{R}{a^2}\right)^8\right]^2 \exp\left(-\frac{4R}{a^2}\right),$$

$$\frac{T_s}{T_D} \simeq \left(\frac{e^2}{\epsilon a^2 E_1}\right)^8 \simeq 10^{-8};$$

the relations for  $T_s$  and  $T_D$  are approximate ones ( $k_{uq}/kT \ll 1$ ,  $S_{ij}$  small);  $\mu$  is Bohr's magneton,  $\mathcal{B}$  the magnetic field applied to the sample,  $g$  the Card 2/3

Relaxation rate of donor electrons in ... S/181/63/005/003/006/046  
B102/3180

experimental g-factor,  $\Delta \approx \Delta_{ij}$ ,  $R/a^* \gg 1$ ,  $a^*$  the effective Bohr radius  
( $S_{ij} \sim \exp(-R/a^*)$ ), q the mean phonon wave number; the remaining  
denotations are as usual. For Si the estimation yields  
 $1/T_s \approx 10^{-3} \text{ sec}^{-1}$ , for Ge  $1/T_s \approx 5 \text{ sec}^{-1}$ .

ASSOCIATION: Institut kataliza SO AN SSSR, Novosibirsk (Institute of  
Catalysis of SO AS USSR, Novosibirsk)

SUBMITTED: September 21, 1962

Card 3/3

AVDEYEV, V.I.; BULGAKOV, N.N.; AKIMUTIN, N.M.

Use of the method of delta-potential atomic orbitals in calculating  
the electron spectra of conjugated heterocyclic compounds. Opt. i  
spektr. 18 no.1:20-26 Ja '65. (MIRA 18:4)

L 29524-66 EWT(1)  
ACC NR: AP6010206

IJP(c) AT

SOURCE CODE: UR/0201/66/000/001/0119/0120

AUTHOR: Avdeyev, V. N.; Kasparov, K. N.; Morozov, G. A.; Staroverova, V. N. 41  
ORG: Laboratory of Electronics AN BSSR (Laboratoriya elektroniki AN BSSR) B  
TITLE: Use of the photoeffect for the measurement of the spectrum of extremely weak  
radiation

SOURCE: AN BSSR. Vestsi. Seryya fizika-tehnichnykh navuk, no. 1, 1966, 119-120  
TOPIC TAGS: photoeffect, radiation spectrum, radiation intensity, radiation measure-  
ment, photoelectric detection equipment

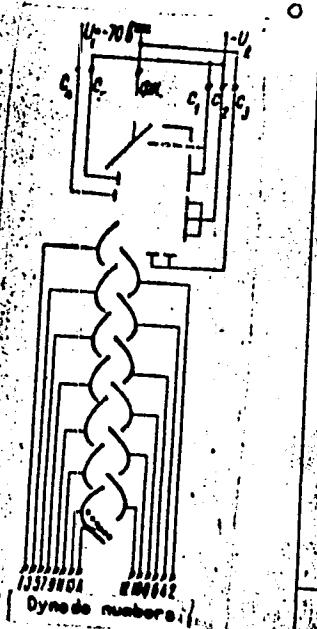
ABSTRACT: The authors describe a photoelectric device intended for the measurement  
of the intensity and of the spectral characteristics of very weak radiation  
( $10^{-14}$  -  $10^{-16}$  w/cm<sup>2</sup>-sec) and for the determination of the spectral characteristics  
of the radiation. The device described (Fig. 1) is a combination of a photocathode,  
a control (separation) system for the photoelectrons, and an electron multiplier.  
Its operation is based on the dependence of the photoemission of electrons on the  
quantum energy. The instrument can also determine directly the wavelength of mono-  
chromatic radiation. The sensitivity in different regions of the spectrum is  
1.7 - 5.0 A/mv. Anode-current cutoff curves for one of the samples are presented.  
Orig. art. has: 2 figures.

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ACC NR: AR010206

Fig. 1. Electric diagram of instrument. A - anode,  
 $U_a = 1975$  v; P<sub>c</sub> - photocathode, C<sub>1</sub>-C<sub>5</sub> - control electrodes.



SUB CODE: 20, 09 / SUBM DATE: 05 Nov 65 / ORIO REF: 001 / OTH REF: 002  
Card 2/2 LS

AVDEYEV, V.N.

MOGILEVSKIY, Dmitriy Aleksandrovich, dotsent; BABKOV, Valeriy Fedorovich, prof., doktor tekhn.nauk; SMIRNOV, Andrey Sergeyevich, kand.tekhn. nauk; ABMAMOV, Leonid Tikhonovich, kand.tekhn.nauk; ZAYTSEV, Philipp Yakovlevich, kand.tekhn.nauk; ZAMAKHAYEV, Mitrofan Semenovich, kand.tekhn.nauk; NIKITIN, Sergey Mikhaylovich, inzh.; BIRULYA, A.K., prof., retsenzent; DUDKIN, P.A., kand.tekhn.nauk, retsenzent; AVDEYEV, V.N., retsenzent; KARTASHEV, V.A., retsenzent; PAL'CHEV, A.G., retsenzent; POPOV, A.N., retsenzent; PANTSIN, I.G., retsenzent; ROMA-NENKO, I.A., prof., retsenzent; BARAJS, L.A., prepodavatel', retsenzent; BASKEVICH, N.I., prepodavatel', retsenzent; BEL'SKIY, A.Ya., prepodavatel', retsenzent; KALUZHISKIY, Ya.A., prepodavatel', retsenzent; CHWANOV, V.G., red.; MAL'KOVA, N.V., tekhn.red.

[Locating and designing airfields] Izyskania i proektirovanie aerodromov. Pod red. V.F.Babkova. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transporta i shosseinykh dorog RSFSR, 1959.  
566 p.  
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AVDEYEV, V.N.; ALEKSANDROV, V.K.; GOLOSOV, V.A.; YEZHNOVA, Ye.V.

Devices for the continuous locking of manufactured articles  
through a vacuum. Dokl. AN BSSR 8 no.11:699-701 N '64.

(MIRA 18:3)

"APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000102530001-9

AVDEYEV, V.N.; ALEKSANDROV, V.K.; LUKOVNIKOV, Yu.N.

Microminiaturization of spiral filaments of electric vacuum  
devices. Dokl. AN BSSR 9 no.12:791-793 D '65.

(MIRA 19:1)

APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000102530001-9"

AVDEYEV, V.N.; ALEKSANDROV, V.K.

Estimation of the precision of the lattice spacing in electric  
vacuum apparatus by means of moiré gratings. Dokl. AN BSSR 9  
no.10:643-646 0 '65. (MIRA 18:12)

1. Submitted June 7, 1965.

SAKHAROVA, N.N.; AVDEYEV, V.P.

Reaction of hydrochlorides of aliphatic amines with samarium chloride in the presence of ethanol. Zhur. ob. khim. 35 no.7: 1171-1173 Jl '65. (MIRA 18:8)

1. Saratovskiy gosudarstvennyy universitet im. N.G. Chernyshevskogo.

I 18530-66 EWT(1)/EWA(h)  
ACC NM AF6002389

SOURCE CODE: UR/0250/65/009/012/0791/0793

AUTHOR: Avdeyev, V. N.; Aleksandrov, V. K.; Lukovnikov, Yu. N.

ORG: none

FILE: Microminiaturization of helical filaments for lamps and tubes

SOURCE: AN BSSR. Doklady, v. 9, no. 12, 1965, 791-793

TOPIC TAGS: microminiaturization, microminiature filament

ABSTRACT: The development of a new helix-winding head, which corresponds to a special formula for maximum filament tension, is reported; the head permits winding the filament on a "dash" type base. The filament tension in the older B.282.05 type head used to be 26 g; the new microhelix head uses a tension of 2 g. Formulas and curves characterizing operation of the new head are presented. An experimental microhelix of 30 $\mu$  diameter made from 8- $\mu$  wire is shown. Orig. art. has: 2 figures, 3 formulas, and 1 table.

SUB CODE: 09 / SUBM DATE: 16Jun65 / ORIG REF: 009 / OTH REF: 001

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ACC NR: AP6034185

(N)

SOURCE CODE: UR/0250/66/010/010/0748/0751

AUTHOR: Avdeyev, V. N. (Corresponding member AN SSSR); Agafonova, M. A.; Aleksandrov, V. K.

ORG: none

TITLE: Method of designing combined electronic devices with a plane-parallel electrode system

SOURCE: AN BSSR. Doklady, v. 10, no. 10, 1966, 748-751

TOPIC TAGS: vacuum tube, electron tube, triode tube, pentode electron tube, electron tube anode, electron tube cathode, electron tube grid, electron tube filament

ABSTRACT: The authors point out the numerous advantages of plane-parallel element configuration in multiple purpose vacuum tubes, as compared with conventional coaxial design. The coaxial construction of complex multi-purpose vacuum tubes is not suitable for automation. The stability of the construction, especially of the grids (which are formed in spirals), is poor, as is the utilization of the envelope space. The authors redesigned a triode-dual pentode tube intended to serve as an audio output stage in radio and TV sets. The triode can be used as a phase inverter, and the two pentodes are connected in push-pull form. The elements are formed in plane-parallel, rather than cylindrical-coaxial configuration. The parameters of this tube are superior to those

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of the conventional tube, particularly because of the rigid "frame-grid" element used  
in all three systems. Orig. art. has: 2 figures.

SUB CODE: 09,14/

SUBM DATE: 05Nov65/

ORIG REF: 001/

OTH REF: 013

Card 2/2

APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000102530001-9"

SAKHAROVA, N.N.; AVDEYEV, V.P.

Double chlorides of lanthanum, cerium, praseodymium, and neodymium  
with dimethylamine chloride. Zhur. neorg. khim. 10 no. 9:2030-2035  
S '65. (MIRA 18:10)

1. Saratovskiy gosudarstvennyy universitet imeni Cheryshevskogo,  
kafedra neorganicheskoy khimii.